

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An apparatus for use with a clamp including first and second clamp members, the apparatus comprising:

an electrosurgical power supply and control apparatus;

a tissue stimulation apparatus configured to provide pulses of tissue stimulation energy varying in amplitude over a range of 1mA to 20mA;

a base member including a mating structure and defining a groove therein, the mating structure being configured for removably securing the base member to the first clamp member;

a support member, the groove formed within the base member being configured to receive the support member;

a coagulation element carried by the support member, the coagulation element comprising a coagulation electrode coupled with the electrosurgical power supply and control apparatus; and

a stimulation element carried by the support member, the stimulation element comprising a stimulation electrode coupled with the tissue stimulation apparatus,

wherein a distal end of the stimulation element is disposed distal to a distal end of the coagulation element.

2. (Previously Presented) An apparatus as claimed in claim 1, wherein the base member includes a mating structure configured to mate with the first clamp member.

3. (Previously Presented) An apparatus as claimed in claim 2, wherein the base member mating structure comprises a relatively narrow portion and a relatively wide portion.

4. (Original) An apparatus as claimed in claim 1, wherein the coagulation element defines a coagulation element configuration, the stimulation element defines a stimulation element configuration, and the stimulation element configuration is different than the coagulation element configuration.

5. (Canceled) ~~An apparatus as claimed in claim 1, wherein the coagulation element comprises a coagulation electrode.~~

6. (Canceled) ~~An apparatus as claimed in claim 5, wherein the stimulation element comprises a stimulation electrode.~~

7. (Original) An apparatus as claimed in claim 6, wherein the coagulation electrode defines a coagulation electrode length, the stimulation electrode defines a stimulation electrode length, and the coagulation electrode length is greater than the stimulation electrode length.

8. (Canceled) ~~An apparatus as claimed in claim 1, wherein the stimulation element comprises a stimulation electrode.~~

9. (Withdrawn) An apparatus as claimed in claim 1, wherein the stimulation element comprises a stimulation electrode pair.

10. (Original) An apparatus as claimed in claim 1 further comprising: first and second coagulation element wires connected to the coagulation element.

11. (Original) An apparatus as claimed in claim 1, wherein the stimulation element is located distally of the coagulation element.

12. (Withdrawn) An apparatus as claimed in claim 1, wherein the stimulation element comprises first and second stimulation elements on opposite sides of the coagulation element.

13. (Previously Presented) An apparatus as claimed in claim 1, further comprising:

a second base member configured to be removably secured to the second clamp member, a second support member, the second base member configured to receive the second support member, a second coagulation element carried by the second support member, and a second stimulation element carried by the second support member.

14. (Currently Amended) A surgical [[An]] apparatus, comprising:
a clamp including a first clamp member, a second clamp member, and movement apparatus that moves at least one of the first and second clamp members relative to the other of the first and second clamp members such that the surgical apparatus has an open state and a closed state;

an electrosurgical power supply and control apparatus;

a tissue stimulation apparatus configured to provide pulses of tissue stimulation energy varying in amplitude over a range of 1mA to 20mA;

a base member including a mating structure and defining a groove therein, the mating structure being configured for removably securing the base member to the first clamp member;

a support member, the groove formed within the base member being configured to receive the support member;

a coagulation element carried by the support member, the coagulation element comprising a coagulation electrode coupled with the electrosurgical power supply and control apparatus; and

a stimulation element carried by the support member, the stimulation element comprising a stimulation electrode coupled with the tissue stimulation apparatus.

wherein a distal end of the stimulation element is disposed distal to a distal end of the support member.

15. ~~(Canceled) An apparatus as claimed in claim 14, wherein the coagulation element comprises a coagulation electrode.~~

16. ~~(Canceled) An apparatus as claimed in claim 15, wherein the stimulation element comprises a stimulation electrode.~~

17. (Original) An apparatus as claimed in claim 16, wherein the coagulation electrode defines a coagulation electrode length, the stimulation electrode defines a stimulation electrode length, and the coagulation electrode length is greater than the stimulation electrode length.

18. ~~(Canceled) An apparatus as claimed in claim 14, wherein the stimulation element comprises a stimulation electrode.~~

19. (Withdrawn) An apparatus as claimed in claim 14, wherein the stimulation element comprises a stimulation electrode pair.

20. (Original) An apparatus as claimed in claim 14, further comprising: first and second coagulation element wires connected to the coagulation element.

21. (Withdrawn) An apparatus as claimed in claim 14, wherein the stimulation element comprises first and second stimulation elements on opposite sides of the coagulation element.

22. (Previously Presented) An apparatus as claimed in claim 14, further comprising a second base member, a second support member, the second base member being

configured to receive the second support member, a second coagulation element carried by the second support member; and a second stimulation element carried by the second clamp member.

23. (Withdrawn) An apparatus as claimed in claim 22, wherein the first stimulation element comprises a pair of stimulation elements on opposite sides of the first coagulation element and the second stimulation element comprises a pair of stimulation elements on opposite sides of the second coagulation element.

24.-37. (Canceled)

38. (Currently Amended) A surgical system, comprising
a source of coagulation energy configured to provide pulses of radiofrequency energy;

a source of stimulation energy configured to provide pulses of tissue stimulation energy varying in amplitude over a range of 1mA to 20mA; and

an apparatus including a clamp having a first clamp member, a second clamp member, and movement apparatus that moves at least one of the first and second clamp members relative to the other of the first and second clamp members such that the surgical apparatus has an open state and a closed state, a base member including a mating structure and defining a groove therein, the mating structure being configured for removably securing the base member to the first clamp member, a support member, the groove formed within the base member being configured to receive the support member, a coagulation element carried by the support member, the coagulation element comprising a coagulation electrode coupled with the electrosurgical power supply and control apparatus, and a stimulation element carried by the support member, the stimulation element comprising a stimulation electrode coupled with the tissue stimulation apparatus, wherein a distal end of the stimulation element is disposed distal to a distal end of the base member.

39. (Original) A surgical system as claimed in claim 38, wherein the coagulation element defines a coagulation element configuration, the stimulation element defines a stimulation element configuration, and the stimulation element configuration is different than the coagulation element configuration.

40. (Canceled) ~~A surgical system as claimed in claim 38, wherein the coagulation element comprises a coagulation electrode.~~

41. (Canceled) ~~A surgical system as claimed in claim 40, wherein the stimulation element comprises a stimulation electrode.~~

42. (Original) A surgical system as claimed in claim 41, wherein the coagulation electrode defines a coagulation electrode length, the stimulation electrode defines a stimulation electrode length, and the coagulation electrode length is greater than the stimulation electrode length.

43. (Canceled) ~~A surgical system as claimed in claim 38, wherein the stimulation element comprises a stimulation electrode.~~

44. (Withdrawn) A surgical system as claimed in claim 38, wherein the stimulation element comprises first and second stimulation elements on opposite sides of the coagulation element.

45. (Previously Presented) A surgical system as claimed in claim 38, further comprising: a second base member configured to be removably secured to the second clamp member, a second support member, the second support member being configured to receive the second support member, a second coagulation element carried by the second support member; and a second stimulation element carried by the second support member.

46. (Withdrawn) A surgical system as claimed in claim 45, wherein the first stimulation element comprises a pair of stimulation elements on opposite sides of the first coagulation element and the second stimulation element comprises a pair of stimulation elements on opposite sides of the second coagulation element.

47. (Currently Amended) An apparatus for use with a clamp including first and second clamp members, the apparatus comprising:

a source of coagulation energy;

a source of stimulation energy configured to provide pulses of tissue stimulation energy varying in amplitude over a range of 1mA to 20mA;

a base member including a mating structure and defining a groove therein, the mating structure being configured for removably securing the base member to the first clamp member;

a support member, the groove formed within the base member being configured to receive a distal portion of the support member;

means, carried by the support member, for transmitting coagulation energy provided by the source of coagulation energy to tissue, the coagulation energy transmission means comprising a coagulation electrode; and

means, carried by the support member, for transmitting stimulation energy provided by the source of stimulation energy to tissue, the stimulation energy transmission means comprising a stimulation electrode,

wherein the distal end of the means for transmitting stimulation energy is disposed distal to a distal end of the means for transmitting coagulation energy, distal to a distal end of the support member, and distal to a distal end of the base member.

48. (Previously Presented) An apparatus as claimed in claim 47, wherein the base member includes a mating structure configured to mate with the at least one of the first and second clamp members.

49. (Previously Presented) An apparatus as claimed in claim 48, wherein the base member mating structure comprises a relatively narrow portion and a relative wide portion.

50. (Previously Presented) An apparatus as claimed in claim 47 further comprising: first and second wires connected to the means for transmitting coagulation energy to tissue.

51. (Previously Presented) An apparatus as claimed in claim 47, wherein means for transmitting stimulation energy to tissue is located distally of the means for transmitting coagulating energy to tissue.

52. (Previously Presented) An apparatus as claimed in claim 47, further comprising:
a second base member configured to be removably secured to the second clamp member;
a second support member, the second base member being configured to receive the second support member;
second means, carried by the second support member, for transmitting coagulation energy to tissue; and
second means, carried by the second support member, for transmitting stimulation energy to tissue.

53. (Previously Presented) The apparatus of claim 1, wherein the base member is formed from a polymer.

54. (Previously Presented) The apparatus of claim 53, wherein the base member is formed from polyurethane.

55. (Previously Presented) the apparatus of claim 1, further comprising an adhesive that holds the coagulation element and the support member in place.

56. (Previously Presented) the apparatus of claim 1, wherein the mating structure is configured for slidably securing the base member to the first clamp member.

57. (Previously Presented) The apparatus of claim 1, wherein the coagulation element is carried on the support member, the support member being positioned within the coagulation element.

58. (Previously Presented) The apparatus of claim 1, wherein the base member is formed from a non-metallic material.

59. (Previously Presented) The apparatus of claim 1, wherein segments of the base member extend around a top portion of the support member to hold the support member within the groove.

60. (New) The apparatus of claim 13, further comprising an EP recording apparatus coupled with the first and second stimulation elements, the EP recording apparatus storing an expected propagation delay.

61. (New) The apparatus of claim 13, wherein the source of stimulation energy is switchable between a bipolar mode and a unipolar mode, such that when in the bipolar mode the source of stimulation energy is operable to transmit stimulation energy to the first stimulation element and receive stimulation energy from the second stimulation element, and when in the unipolar mode the source of stimulation energy is operable to transmit stimulation energy to both the first stimulation element and the second stimulation element.